

A NEW GENUS OF ALLANTINAE FROM INDIA (HYMENOPTERA: SYMPHYTA: TENTHREDINIDAE)¹

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(With eighteen text-figures)

Key words: *Anisotaxonus* gen. nov., Allantinae, Hymenoptera, India.

Described as a new genus belonging to subfamily Allantinae from India, *Anisotaxonus* is based on three new species. This genus is closely allied to the genus *Taxonus* Hartig (1837), from which it differs in several significant characters.

INTRODUCTION

All three new species described under the new genus *Anisotaxonus*, run smoothly in Malaise's (1963) key upto couplets 92 and 132, where these can be wrongly associated with the genus *Taxonus* Hartig or *Parasiobla* Ashmead. However, when seen in detail they clearly differ from *Parasiobla* and *Taxonus*, on the basis of some stable and reliable characters such as: extent and shape of clypeal incision; ratio of antennal segments 3 and 4; overall shape of antenna; presence or absence of postgenal as well as postorbital carinae; presence or absence of punctures on mesopleura; presence or absence of closed middle cell in hind wing; general direction and angle of anal cross vein in forewing. These three species can be grouped under the new genus *Anisotaxonus*.

Type material is deposited at Indian Agricultural Research Institute, Pusa National Collections, Division of Entomology, New Delhi, India.

Abbreviations used in text are: IATS = Inner apical tibial spur, ICD = Intercenchri distance, IDMO = Interocular distance at level of median ocellus, ITD = Intertegular distance,

LID = Lower interocular distance, MB = Metabasitarsus, OATS = Outer apical tibial spur, OCL = Ocello-occipital line, OOL = Oculo-ocellar line, POL = Postocellar line.

Anisotaxonus gen. nov.

(Figs. 1, 2, 6, 7)

Adult: Antenna (Figs. 6-7) 9 segmented; scape longer than pedicel; segment 3 shorter than 4; some apical segments may be compressed. Circular clypeal incision at the most upto half of its medial length. Labrum broader than long with rounded anterior margin. Postgenal carina absent; hind orbits not carinated. Mesopleuron smooth, shining and impunctate. Metabasitarsus shorter than following joints combined. Claw with a subapical tooth and with or without basal lobe. Forewing (Fig. 1) with veins M and Rs+M meeting Sc+R at or near the same point, but the distance is less than the length of first cubital cross vein; anal cross vein oblique. Hindwing (Fig. 2) with one closed middle cell; anellan cell petiolate.

Type species: *Anisotaxonus brunneus* sp. nov.

Distribution: INDIA.

Discussion: *Anisotaxonus* gen. nov. is allied to *Taxonus* Hartig on the basis of some characters such as: circular incision of clypeus; scape longer than pedicel; mesopleura smooth,

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shining and impunctate; anal cross vein oblique and hindwing with closed middle cell. However, the new genus differs from *Taxonus* on the basis of some other significant characters, such as: some apical antennal segments compressed; segment 3 shorter than 4; clypeal incision at the most upto half of its medial length; postgenal carina absent; hind orbits not carinated. Otherwise all the species of the new genus can be wrongly keyed under *Parasiobla*, a genus that was erected by Ashmead (1898) with *Taxonus rufocinctus* Norton as its type species, but suppressed into synonymy of *Taxonus* by Konow (1905) and again revived by Malaise (1963) on the basis of the absence of closed middle cells in the hindwing, a character which is especially variable in *rufocinctus*, its type species. We agree with Smith's (1979) arguments that the criteria used by Malaise (1963) to divide *Taxonus* Hartig into four genera: *Taxonus*, *Strongylogastroidea*, *Hypotaxonus*, and *Parasiobla* (= *Polytaxonus*) on the basis of variable, unstable and very weak characters, such as the comparative length of hind basitarsus and presence or absence of closed middle cell in the hind wing, are completely unreliable and thus unacceptable. Thus, we consider all of them as synonyms of *Taxonus* Hartig (1837). Because of the differences enumerated above, a new generic name is proposed to accomodate the new species.

Etymology: The generic name is based on its remarkable distinction from the genus *Taxonus* Hartig (Aniso= dissimilar or not same), and feminine form is used.

KEY TO THE SPECIES OF *ANISOTAXONUS* FROM INDIA

1. Abdomen auratus with black markings; antenna unicolour, uniformly black; tarsal claw without basal lobe; malar space at the most 1x diameter of median ocellus 2
- Abdomen entirely fuscoferruginous; antenna bicoloured, tip auratus; tarsal claw with distinct basal lobe; malar space distinctly longer than

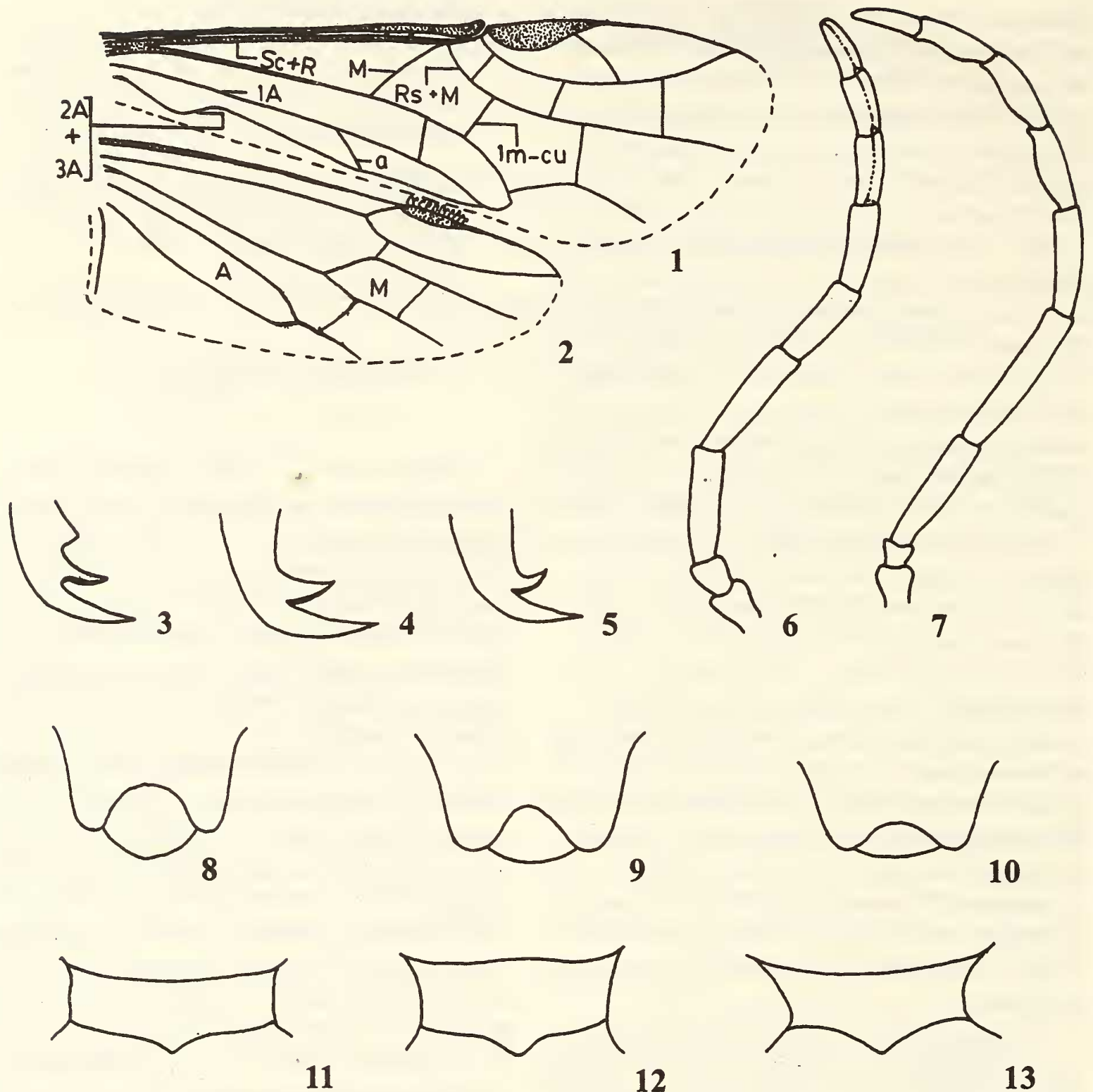
- diameter of median ocellus
 *A. brunneus* sp. nov.
2. Malar space 1x diameter of median ocellus; postocellar area as long as broad; antennal segments 3 and 4 as 2:3; OOL:POL:OCL = 5:4:5 *A. sessaensis* sp. nov.
 - Malar space 0.75 x diameter of median ocellus; postocellar area broader than long as 4:3; antennal segments 3 and 4 as 3:4; OOL:POL:OCL = 6:4:5
 *A. assamensis* sp. nov.

Anisotaxonus brunneus sp. nov.

(Figs. 3, 6, 8, 11, 14)

Female: Colour: Head fuscoferruginous, whitish yellow are: extreme apical tip of antennal segment 6; segments 7-9 entirely; clypeus; labrum; supraclypeal area; broad inner orbit; lower 1/3 of hind orbit. Black are: antenna except whitish yellow segments; supraclypeal pit; a broad spot on frontal area limited between frontal ridges and posteriorly covering ocellar region and extending upto hypothetical hind margin of head in the form of a narrow streak along lateral furrows. Thorax black, whitish yellow are: broad posterodorsal and narrow posterolateral margins of pronotum; tegula; sagittated apex of mesonotal middle lobe; mesoscutellum except its fuscoferruginous posterior margin; appendage; parapterum; a broad transverse spot on mesopleuron; a transverse stripe in lower half of mesepisternum extending upto coxal rim; most of metepisternum. Abdomen fuscoferruginous. Legs fuscoferruginous except coxae, trochanters and basal 1/3 of femora of all legs which are whitish yellow. Wings hyaline; extreme apices of costa and subcosta, basal 1/3 of stigma fulvous; rest of venation piceous.

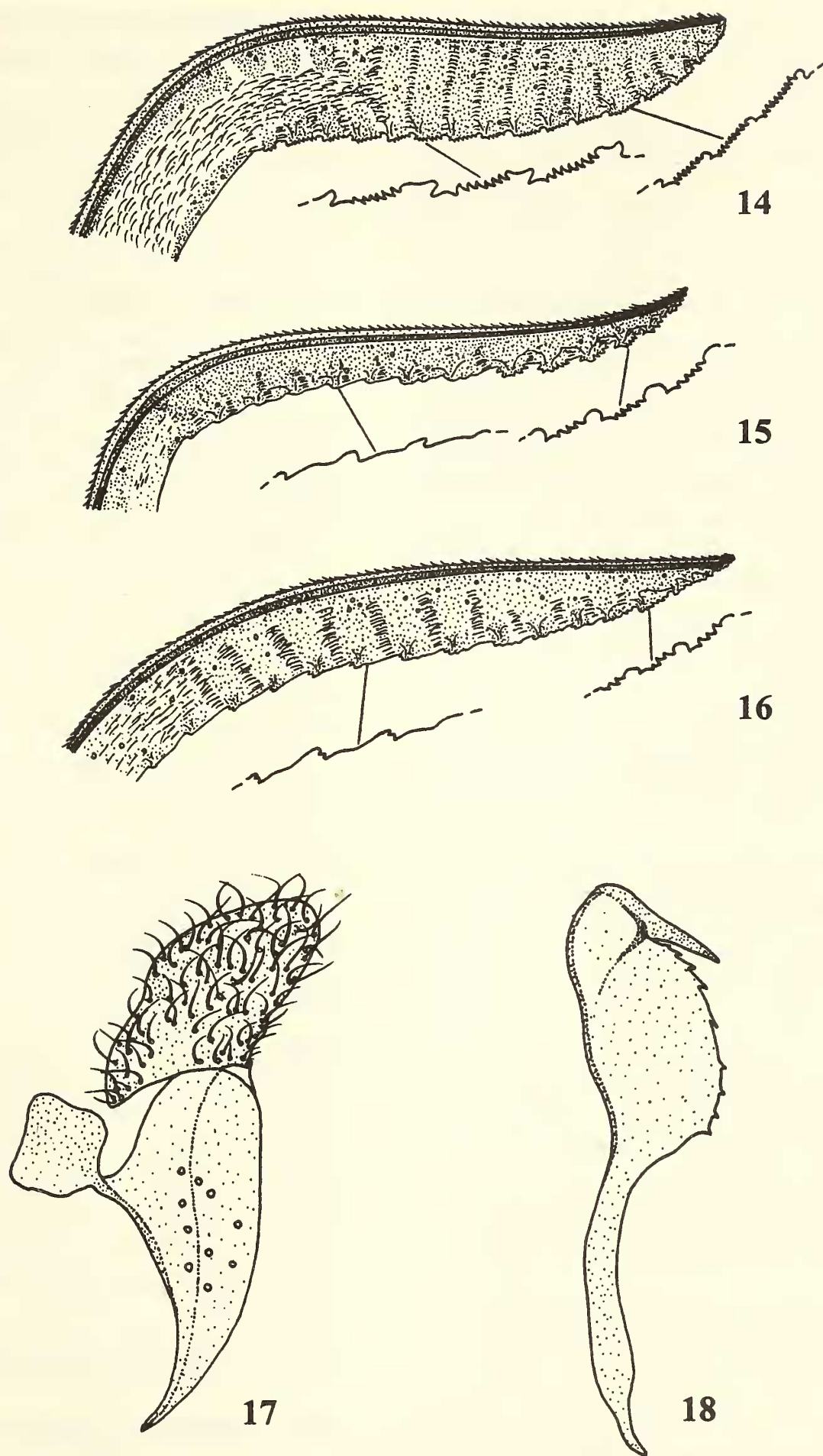
Structure: Length 5.5 mm. Antenna (Fig. 6) long, 3.4 x head width, three apical segments distinctly compressed; scape 2x its apical width, pedicel 2x its apical width; segment 3 shorter than 4 as 6:7; clypeus (Fig. 8) circularly incised upto 1/2 of its length; labrum (Fig. 8) broader than long as 3:2, with slightly deflexed rounded



Figs. 1-2. *Anisotaxonus brunneus* Wings: 1. Forewing, 2. Hindwing; Figs. 3-5. Tarsal claw: 3. *A. brunneus*; 4. *A. sessaensis* 5. *A. assamensis*; Figs. 6-7. Antenna: 6. *A. brunneus*; 7. *A. sessaensis*; Figs. 8-10. Clypeus & Labrum: 8. *A. brunneus*; 9. *A. sessaensis*, 10. *A. assamensis*; Figs. 11-13. Hypopygium: 11. *A. brunneus*; 12. *A. sessaensis*; 13. *A. assamensis*

anterior margin; malar space 1.7x diameter of median ocellus; lower margin of eye below level of antennal socket; LID:IDMO:EL = 12:7:13; supraclypeal and supraantennal pits well marked; frontal area above level of eyes; supraantennal tubercles and frontal ridges insignificant; median

fovea shallow with a distinct ditch in its anterior half only; post-, inter- and circumocellar furrows distinct; lateral furrows shallow, excurved (bulging) and abruptly ending well before hypothetical hind margin of head; postocellar area almost subconvex, broader than long as 3:2;



Figs. 14-16. Lancet: 14. *Anisotaxonus brunneus*, 15. *A. sessaensis*, 16. *A. assamensis*;
Figs. 17-18. Male genitalia: 17. Gonoforceps of *A. sessaensis*, 18. Penis valve of *A. sessaensis*.

head parallel behind eyes; OOL:POL:OCL = 5:4:5; mesoscutellum almost flat, appendage not carinate; ICD:ITD = 2:7; tarsal claw (Fig. 6) with a subapical tooth shorter than apical one and a distinct basal lobe, the distance between the two tips shorter than the length of subapical tooth; metabasitarsus shorter than following joints combined as 8:9; IATS:MB:OATS = 1:4:2. Lancet (Fig. 14) having 15 serrulae. Hypopygium as in Fig. 11.

Sculpture and pubescence: Head with dense, minute, fine punctures on frontal area, surface shining; mesonotum punctured like head, surface shining; mesoscutellum with dense minute, fine, irregular punctures on its posterior slope, surface shining; appendage shining; mesopleuron smooth, shining and impunctate with general oily lustre; abdomen impunctate, shining. Body covered with reddish to dark brown pubescence.

Male: Unknown.

Material examined: *Holotype:* Female, Manipur, Ukhrul, 1700 m, 24.v.1993, Coll. V. Vasu.

Distribution: INDIA: Manipur.

Diagnosis: *A. brunneus* is unique in having a combination of some significant characters such as: bicoloured antenna; fuscoferruginous abdomen; lateral furrows excurved; clypeus circularly incised upto 1/2 of its medial length; head parallel behind eyes and metabasitarsus shorter than following joints combined, which sets this species far apart from the rest of the species under this genus.

Etymology: Species name pertains to general colour of body.

Anisotaxonus sessaensis sp. nov.

(Figs. 4, 7, 9, 12, 15, 17, 18)

Female: Colour: Body black, auratus are: clypeus; labrum; mandible barring apex; broad inner orbit; lower hind orbit; tegula; spot on mesoscutellum; minute spots on the inner sides of mesonotal lateral lobes meeting in the centre;

parapterum; a broad transverse spot on lower half of mesepisternum; spot on metapleuron; tergite 2 more or less; tergites 3-5 entirely; deflexed lateral sides of tergites 4-8; all sternites; all legs except apical 3 tarsi which are fuscoferruginous. Wings hyaline, venation including costa, subcosta and stigma piceous.

Structure: Average length 5 mm. Antenna (Fig. 7) long, 3.4 x head width, apical segments not compressed; scape 2x its apical width; pedicel 1.3x its apical width; segment 3 shorter than 4 as 2:3; clypeus (Fig. 9) with triangularly incised anterior margin upto 1/2 of its medial length; labrum (Fig. 9) broader than long as 2:1, with deflexed rounded anterior margin; malar space 1x diameter of median ocellus; lower margin of eye below level of antennal socket; LID:IDMO:EL = 2:2:1; supraclypeal and supraantennal pits well marked; frontal area slightly above level of eyes; supraantennal tubercles and frontal ridges insignificant; median fovea with a deep ditch in its anterior half and posteriorly only shallowly reaching median ocellus; post-, inter- and circumocellar furrows distinct; lateral furrows deep, distinct, parallel and abruptly ending just before hypothetical hind margin of head; postocellar area subconvex, broader than long as 4:3; head slightly narrowing behind eyes; OOL:POL:OCL = 5:4:5; mesoscutellum almost flat, appendage not carinate; ICD:ITD = 1:4; tarsal claw (Fig. 4) with a subapical tooth shorter than apical one and without basal lobe, the distance between the two tips equal to the length of subapical tooth; metabasitarsus shorter than following joints combined as 8:9; IATS:MB:OATS = 5:14:6. Lancet (Fig. 15) having 14 serrulae. Hypopygium as in Fig. 12.

Sculpture and pubescence: Head with a few fine, scattered punctures on frontal area, surface shining; thorax impunctate, shining with general oily lustre abdomen impunctate, shining. Body covered with mixed brownish and silvery pubescence except for the auratus part where it appears to be golden.

Male: Length 4 mm. Similar to female. Genitalia: Penis valve (Fig. 18), gonoforceps (Fig. 17).

Material examined: *Holotype:* Female, Arunachal Pradesh, Sessa, 1100 m, 23.v.1993, Coll. M.S. Saini. *Paratypes:* 1 Female, Arunachal Pradesh, Lazu, 1800 m, 5.v.1994, Coll. V. Vasu. 1 Female, 1 Male, Nagaland, Pfutsero, 2100 m, 14.v.1994, Coll. V. Vasu.

Distribution: INDIA: Arunachal Pradesh.

Diagnosis: *A. sessaensis* differs from all other known species of this genus in the following combined characters: antenna unicolour; abdomen partly black; incision of clypeus extending to 1/3 of its medial length; lateral furrows parallel; head narrowing behind eyes and presence of minute indistinct basal lobe.

Etymology: Species name is after its type locality.

Anisotaxonus assamensis sp. nov.
(Figs. 5, 10, 13, 16)

Female: Colour: Body black, whitish yellow are: clypeus except extreme base; labrum; mandible barring apex; a squarish spot on supraclypeal area; narrow inner orbit, tegula; inner margins of mesonotal lateral lobes meeting in the centre in front of mesoscutellum; top of mesoscutellum; parapterum; a broad spot on posteroventral margin of mesepisternum; most of metapleuron; all coxae, trochanters and the adjoining parts of all femora. Auratus are: scape; tergites 2-5; tergite 6 more or less; deflexed lateral sides of tergite 7; sternites 2-6; all femora; tibiae of front four legs; tarsi of proleg; rest of parts of all legs fuscoferruginous. Wings hyaline; venation including costa; subcosta and stigma piceous.

Structure: Length 5 mm. Antenna long, 3x head width, apical segments not compressed; scape 1.3x its apical width; pedicel as long as its apical width; segment 3 shorter than 4 as 3:4; clypeus (Fig. 10) circularly incised upto 1/3 of

its medial length; labrum (Fig. 10) broader than long as 3:2, with deflexed rounded anterior margin; malar space 0.75x diameter of median ocellus; lower margin of eye below level of antennal socket; LID:IDMO:EL = 6:7:4; supraclypeal and supraantennal pits well marked; frontal area almost at level of eyes, supraantennal tubercles and frontal ridges insignificant; median fovea in the form of a ditch in its anterior half and posteriorly only shallowly reaching median ocellus; post-, inter- and circumocellar furrows shallow; lateral furrows deep, distinct, parallel and abruptly ending just before hypothetical hind margin of head; postocellar area subconvex, broader than long as 4:3; head narrowing behind eyes; OOL:POL:OCL = 6:4:5; mesoscutellum almost flat, appendage not carinate; ICD:ITD = 1:4; tarsal claw (Fig. 5) with a subapical tooth shorter than apical one and without basal lobe, the distance between the two tips is greater than the length of subapical tooth; metabasitarsus shorter than following joints combined as 8:9; IATS:MB:OATS = 4:8:3. Lancet (Fig. 16) having 16 serrulae. Hypopygium as in Fig. 13.

Sculpture and pubescence: Head, thorax and abdomen impunctate, smooth and shining with general oily lustre. Body covered with silvery pubescence except for auratus parts where it appears to be golden.

Male: Unknown.

Material examined: *Holotype:* Female, Assam, Jatinga, 800 m, 7.v.1993, Coll. V. Vasu. *Paratype:* 1 Female, Arunachal Pradesh, Tissa, 700 m, 7.v.1994, Coll. V. Vasu.

Distribution: INDIA: Assam.

Diagnostic combination: *A. assamensis* is closely allied to *A. sessaensis* but can be separated from it and other species of this genus on the basis of some remarkable characters such as colour pattern of body; length of malar space; clypeal incision; absence of basal lobe; ratio of antennal segments and postocellar area.

Etymology: Species name pertains to Assam state in which its type locality is situated.

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REFERENCES

- ASHMEAD, W.H. (1898): Classification of the horntails and sawfly, or the suborder Phytophaga, *Canad. Ent. 30*: 308-311.
- HARTIG, T. (1837): Die Familien der Blattwespen und Holzwespen, nebst einer allgemeinen einleitung zur naturgeschichte der hymenopteran. Berlin, pp 416.
- KONOW, F.W. (1905): Hymenoptera, Fam. Tenthredinidae. In Wytsman, P., ed., *Genera Insectorum* 29: 1-108.
- MALAISE, R. (1963): Hymenoptera, Tenthredinoidea, subfamily Selandriinae. Key to the genera of the World. *Ent. Tidskr. Arg. 84* (3-4): 159-215.
- SMITH, D.R. (1979): Nearctic Sawflies IV. Allantinae: Adults and Larvae (Hymenoptera: Tenthredinidae). *USDA Tech. Bull. 1595*: 1-172.